

## **ABSTRACT**

A method is disclosed to generate, while preserving text, image, transactional and embedded presentation constraint information, a minimum set of simplified and navigable web contents from a single web document that is oversized for targeted smaller devices. The method includes a parser, a content tree builder, a document tree builder, a document simplifier, a virtual layout engine, a document partitioner, a content scalar and a markup generator. The parser generates markup and data tags from an HTML source document. The builder constructs a content tree. The simplifier transforms the document tree into an intermediate one defined by a subset of XHTML tags and attributes. Layout constraints, including size, area, placement order, and column/row relationships, are calculated for partitioning and scaling the document tree into sub document trees with assigned navigation order and hierarchical hyperlinks. A simplified HTML document is then generated with the markup generator.